

## REMARKS

### Present Status of the Application

This is a full and timely response to the outstanding non-final Office Action mailed on April 14, 2004. Claims 1-19 remain pending of which claims 1, 7, 10, 12 and 14 have been amended to more accurately describe the invention and to correct informalities. It is believed that no new matter is added by way of these amendments made to the claims or otherwise to the application. Claim 1 has been amended by incorporating the subject matter of claim 3 therein. Claims 7 and 12 have been amended to recite, among other things, that the adhesive layer is between the central surface and the active surface of the die and is between at least one of the peripheral surfaces and the active surface of the die. It is believed no new issue is raised by these amendments. Since dependent claims 10 and 14 have already recited that the thickness of the adhesive layer between the peripheral surface and the active surface is greater than that of the adhesive layer between the central surface and the active surface, the adhesive layer disposed between the central surface and the peripheral surface and the active surface of the die is thus implied.

Applicant has most respectfully considered the remarks set forth in this Office Action. Regarding the anticipated rejection, it is however strongly believed that the cited references are deficient to adequately teach the claimed features as recited in the amended claims. The reasons

that motivate the above position of the Applicant are discussed in detail hereafter, upon which reconsideration of the claims is most earnestly solicited.

### **Interview Summary**

The undersigned would like to thank Examiner Ha for granting a telephonic interview on May 10, 2004, during which the 35 U.S.C 102(e) rejection and the Examiner's response to previous arguments were discussed. More particularly, the undersigned and the Examiner discussed the rejections and the teachings of the Glen references. The Examiner indicates that the proposed amendment "...the central surface and the peripheral surface are attached to the active surface of the die through the adhesive layer" sounds "good". The Examiner also indicates examination is required to determine whether the proposed amended claim language will define over the prior art. No agreement was reached during this interview.

### **Discussion of Office Action Rejections**

*The Office Action rejected claim 1-19 under 35 U.S.C. § 102(e), as being anticipated by Glenn (US 6,580,167).*

In order to properly anticipate Applicants' claimed invention under 35 U.S.C. § 102, each and every element of the claim in issue must be found, "either expressly or inherently described, in a single prior art reference." "The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F. 2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)." See M.P.E.P. § 2131, 8<sup>th</sup> ed., 2001.

The present invention is in general related to a stack chip package structure with a thicker adhesive layer around the edges than the central area of a die. Particularly, a plurality of surfaces is formed at the edges of the stack structure (e.g. functional dies, dummy dies, metal blocks, etc.) surrounding the central surface of the stack structure. The present invention further teaches, among other things, the adhesive layer is between the central surface and the active surface of the die and is between the peripheral surfaces and the active surface of the die. Since the peripheral surfaces are further away from the active surface of the die than the central surface, the adhesive layer between the peripheral surface and the active surface of the die is thicker than the adhesive layer between the central surface and the active surface.

Glen, on the other hand, teaches a lower surface 130L of a heat sink 130 being thermally connected to the upper surface 104U of an electronic component 104, while the upper surface 130U of heat sink 130 is exposed directly to the ambient environment. The upper surface 130U and the lower surface 130L of the heat sink are parallel to one another. Glen further teaches a central body portion 136 of the heat sink being defined by the lower first side 138, the upper second side 140, the lower surface 130L and the upper surface 130U (Fig. 5). In addition, Glen teaches ledge 142 extends outwards from the central body portion 130 and projection ring 133 projecting outwards from the central body portion 136 of the heat sink 130. It is unclear from the Office Action the alleged peripheral surfaces of Glen is the ledge 142 or the projection ring 133. However, it is obvious that no adhesive layer is disposed between the active surface of the die and the ledge or the projection ring of Glen, even the lower surface 130L of the central body portion 136 of the heat sink 130 is attached to the active surface of the die through the adhesive

layer 132. As a matter of fact, Glen specifically teaches the ledge 142 forming an overhang above bond wires 112 to provide clearance for bond wires between the upper surface 104U of electronic component 104 and the ledge 142 (col. 5, ln 41-45). Similarly, the projection ring 133 of Glen extends even beyond the perimeter of the die and thus can not be directly attached to the die through an adhesive layer. Therefore, Glen does not teach "...the adhesive layer is between the central surface and the active surface of the die and is between at least one of the peripheral surfaces of the conductive block and the active surface of the die."

For at least these reasons, Applicants respectfully assert that Glen fails to render claims 1, 7 and 12 anticipated. Since claims 2, 4-6, 8-11 and 13-19 are dependent claims which further define the invention recited in claims 1, 7 and 12, respectively, Applicants respectfully assert that these claims also are in condition for allowance. Thus, reconsideration and withdrawal of this rejection are respectfully requested.

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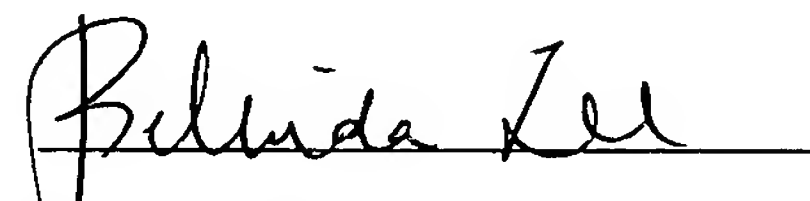
## CONCLUSION

For at least the foregoing reasons, it is believed that the presently pending claims 1-2, 4-19 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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